



Highways Maintenance Efficiency Programme

A LEAN Toolkit for Highway Maintenance

Matthew Lugg OBE

HMEP Advocate

Seconded to the Department for Transport

Director of Public Services, Mouchel Infrastructure Services

Nicola Woodcock

Principal Consultant, Habanero Business Consulting



Highways Maintenance Efficiency Programme

Topics Covered

- What is HMEP
- Background to the toolkit
- The toolkit
- Case studies
- Close

What is HMEP?

- A sector-led transformation programme
- A source of information and focal point for connecting people, tools and resources around the efficiencies agenda
- A partnership between public and private sectors
- A catalyst to move beyond incremental efficiencies to more innovative ways of working



- Economic pressures have led to a reduction in public expenditure
- Pressure on Local Highway Authorities to make savings and find better ways to use limited resources
- Need to find real savings over and above incremental improvements
- Roads are seen as essential to the economic prosperity of the country



Ethos and Approach

The foundation stones

By the sector, for the sector

- A sector led improvement programme

Practical solutions

- Connecting people with practical solutions

Results focused

- Tangible improvement, real and sustainable savings in service delivery



The HMEP offer

1

Strategic Review

2

Signposting

3

Knowledge Hub

4

Toolkits, guidance & resources

5

Good Practice

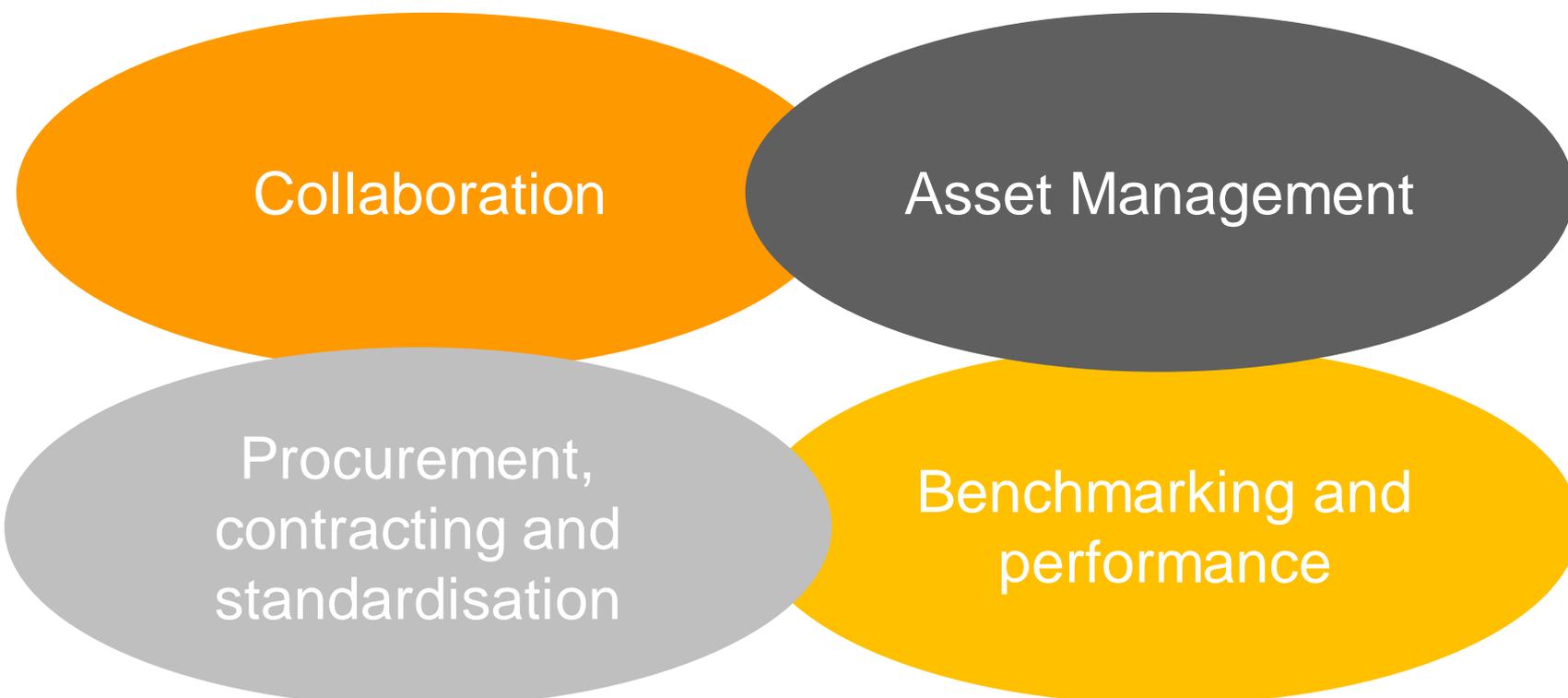


Efficiency benefits

Some of the Organisations Involved in HMEP



Key Themes



Collaboration

Asset Management

Procurement,
contracting and
standardisation

Benchmarking and
performance



Products and Resources

Available and in development

Highways Maintenance Efficiency Programme

STRATEGIC REVIEWS

COLLABORATION AND CHANGE

SHARED SERVICE TOOLKIT
Available now

BUSINESS CHANGE

DEVELOPING CLIENT CAPABILITY

LEAN TOOLKIT

COLLABORATIVE ALLIANCES TOOLKIT
Available now

CLIENT - PROVIDER COLLABORATION
Available now

CREATING THE CULTURE
available now

PROCUREMENT, CONTRACTING & STANDARDISATION

PROCUREMENT ROUTE CHOICES TOOLKIT
Available now

STANDARD FORM OF CONTRACT
Available now

STANDARD SPECIFICATION
Available now

SUPPLY CHAIN REVIEW

DOCUMENT COMPILER

ASSET MANAGEMENT

GUIDANCE ON HIGHWAYS DRAINAGE
Available now

REVIEW OF ASSET MANAGEMENT GUIDANCE
Available now

DETERIORATION MODEL FOR BITUMINOUS SURFACING
Available now

POTHOLE REVIEW
Available now

PRACTITIONER TRAINING

LIFECYCLE PLANNING TOOL
Available now

IMPROVING LHA & UTILITY CO-OPERATION

BENCHMARKING & PERFORMANCE

COST, QUALITY AND CUSTOMER (CQC)

GOOD PRACTICE NETWORK

KNOWLEDGE HUB



Purpose of HMEP Project:

- To create a LEAN Toolkit for the Highway Services sector that promotes LEAN practice and combines case studies with a 'how to' guide

What Matters:

- It is used by highway authorities and supply chain partners to start or do more LEAN projects
- Those LEAN projects succeed in demonstrably saving money and improving services
- There is a depository of knowledge built that is easy to use and can be added to as new LEAN projects run

- LEAN – originally identified by HMEP as one of the key drivers for efficiency savings and fundamental to good clienting
- The proposal to develop a toolkit based on evidence from the West Midlands and Highways Agency Case Studies
- URS and Habanero appointed as consultants to undertake the investigation and development work

Lean in Highways in the West Midlands

- To date have have delivered £3.9m p.a. efficiency savings
- Projected savings of well in excess of £20m up to 2015
- Efficiencies delivered while service improved



Case Studies are available at the West Midlands highway alliance website
www.westmidlandsiep.gov.uk

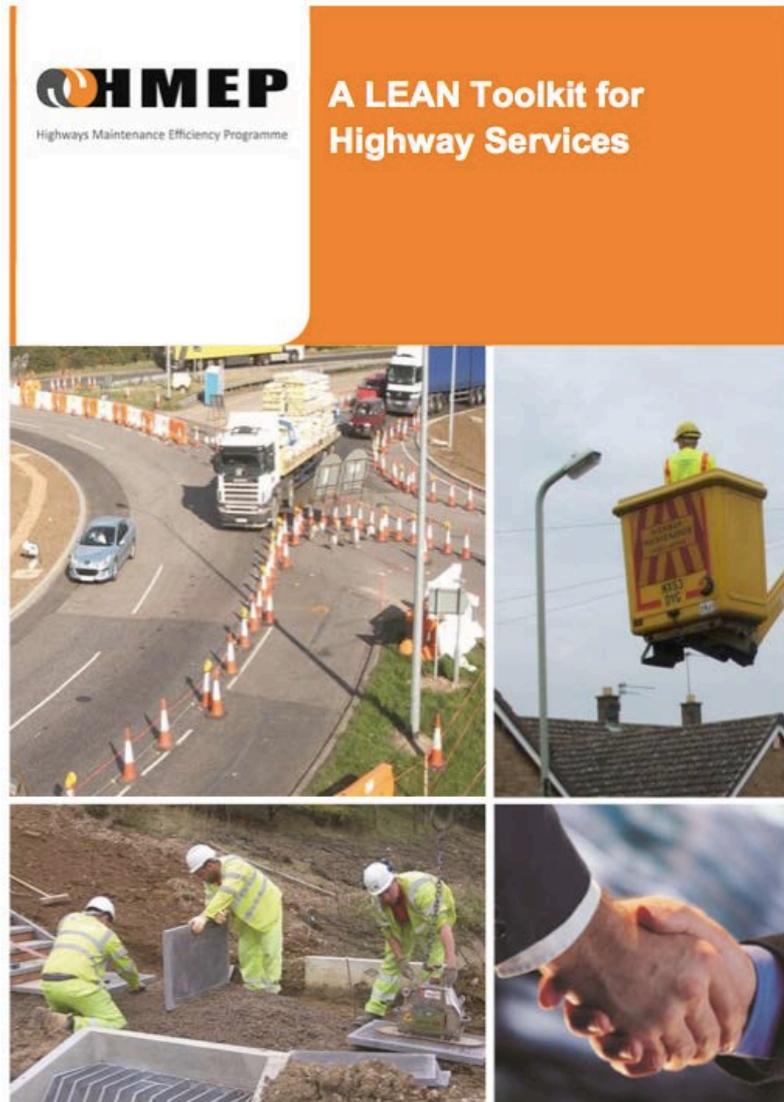
LEAN across the Highway Maintenance sector

- Analysis shows that LEAN has been very successfully applied in the Highway Maintenance sector:
 - 17 Local Highway Authorities have been identified who have applied LEAN in their Highway Maintenance services
 - Authorities have saved between £150k and £1m per year while improving the quality of service delivered to customers
 - Authorities have typically achieved a return on investment of 10:1, with payback in year
- And there is scope to do much more...



Highways Maintenance Efficiency Programme

The Toolkit is about to be published...





Toolkit Structure

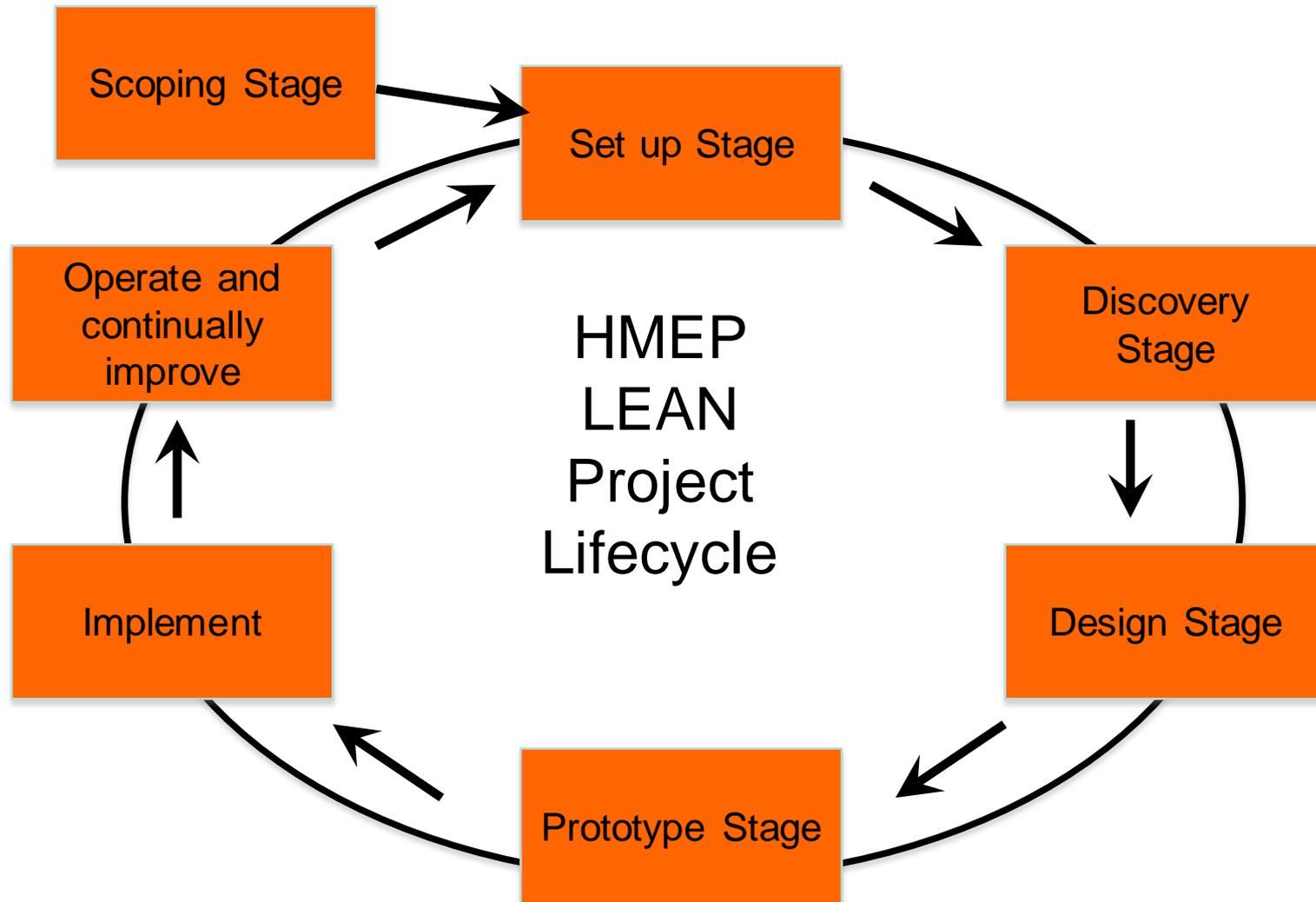
Highways Maintenance Efficiency Programme

Contents

1. What is LEAN and why use it?
2. Purpose of this Toolkit
3. Intended users of this Toolkit
4. What support will be needed to use the Toolkit?
5. HMEP LEAN Project Lifecycle
6. “How To” Guidance – Stage 0 – Scoping (Optional)
7. “How To” Guidance - Stage 1 – Set up
8. “How To” Guidance – Stage 2 – Discovery
9. “How To” Guidance – Stage 3 – Design
10. “How To” Guidance – Stage 4 – Prototype
11. “How To” Guidance – Stage 5 – Implement
12. “How To” Guidance – Stage 6 – Operate and Continually Improve
13. Lessons Learned

Appendices

Case Study Bank



Highways Maintenance Efficiency Programme

SET UP

Purpose: be ready to start

What is it:

- to clearly define the purpose of the project
- what success is and how it will be measured
- how the project will be run
- roles and responsibilities of the key stakeholders

DISCOVERY

Purpose: to build a shared understanding of the current system

What is it:

- both the 'what' and 'why' of the way that work is done
- what is it like to be a customer of the system

DESIGN

Purpose: to collectively build a shared design for the new system and to agree how to start to experiment with that new design.

What is it:

- event to share understanding of the current system
- to design a new system
- plan how to start experimenting

PROTOTYPE

Purpose: to experiment with the new system design

What is it:

- reflect and learn to keep improving the design
- measure success of the experiment
- grow the experiment
- decision to implement & plan to make the experiment 'normal'

IMPLEMENT

Purpose: to implement the new way of working across the whole system

What is it:

- to embed measurement
- to continually challenge and improve
- implementation of any changes to roles, structures and ICT

OPERATE AND CONTINUOUSLY IMPROVE

Purpose: to embed the operation of the new system

What is it:

- leaders ensure that effective measurement, learning and improvement continues

DESIGN STAGE SUMMARY

Purpose: To build dissatisfaction with the current system, to create a design for a new system, and to develop a prototype plan with measures

Key activities:

- Organising the Decision Accelerator
- Design and Delivery of the Decision Accelerator
- “Back to the Garage”
- Adding Further Detail to the Design
- Create Prototype Plan

Key to success:

- High challenge
- All key stakeholders engaged
- Take decisions there and then

Outcomes & Products:

- A well-organised Decision Accelerator event that delivers outcomes
- Good quality, fast decisions
- Agreement to prototype a new way of working
- A detailed design ready to prototype
- Agreed measures of success
- Clear plan to start the prototype as soon as possible



Case Study
Highways Agency – Introduction of Visual Management and Collaborative Planning Tools
Leicester City – Using the HMEP LEAN Toolkit to Review Reactive Repairs: Policy and Procedure
Islington – How to Create a Customer Focused Culture
Leicestershire – Using the HMEP LEAN Toolkit to Review Planned Maintenance.
Shropshire – Hedge to Hedge Review
Bradford – Highways Surface Defect Improvements
Highways Agency – Winter Maintenance Route Efficiency
Sandwell – A Hedge to Hedge, Right First Time Approach
Herefordshire – Health Check of Highways Service Leading to the Re-procurement of Services
North East Lincolnshire Council in partnership with Balfour Beatty Workplace – Improved Co-ordination of Highways and Utility works
Working in Partnership with Utilities – The Kinver Project
Nottinghamshire County Council – Whole Highways Service Review
Nottinghamshire County Council – Streamlining the TRO process
Highways Agency – Efficiency Savings in Safety Inspections
Herefordshire – From Safe and Enjoyable Localities to a Whole System Change
Lincolnshire Highways Alliance



Highways Maintenance Efficiency Programme

Pilot Feedback

"The HMEP LEAN Toolkit helped us to do what we have been thinking about for ages, but hadn't actually done." Leicester City

"It has really changed how we think about improvement" Leicestershire

"For us, the biggest benefit of using the HMEP LEAN Toolkit has been the high level of staff engagement. We have looked at the whole end-to-end system, including contractors and subcontractors, and they have really owned the change." Leicestershire

North East Lincolnshire – Utility collaboration

Outcomes

- Sharing Roadspace/Better Coordination of Works to reduce days disruption on the network
- Co-ordination Charter
- Develop a Coordinated 2-3 Year Programme
- Improve information to the public

Feedback on using the Toolkit

- Focus on Set Up & getting support from stakeholders worked well
- Logical structure which helped our rapid approach
- Challenge from a critical friend is important

Leicestershire – Planned Maintenance

Outcomes

- Standardise and improve works ordering process
- Improved forward planning & co-ordination
- Right first time
- On time

Feedback on using the Toolkit

- Benefit from reviewing whole system end-to-end
- Worked with suppliers and reduced overlap and duplication
- Dealing with root causes of issues not the symptoms
- Helped us change faster
- Biggest difference was increased staff engagement and ownership

Leicester City – Reactive Maintenance

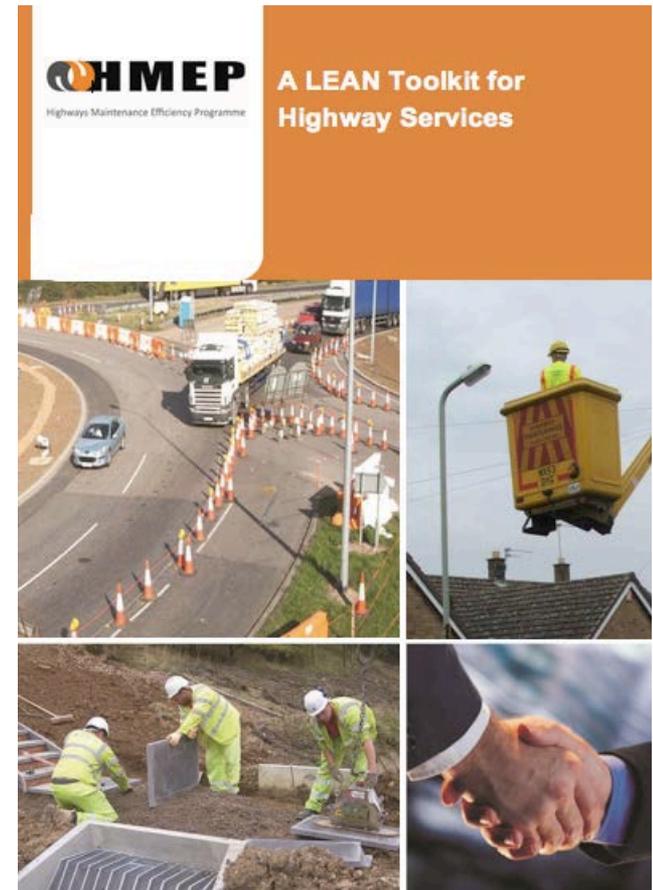
Outcomes

- A 50% increase in the area of carriageway repaired while the cost has only increased by 8%
- Staff morale has improved
- NRSWA inspection rate has increased from <10% to 100% - saving £70k
- Highway condition surveys which used to be done externally at a cost to the Council are now being done by the Highways Inspectors

Feedback on using the Toolkit

- Helped with stakeholder buy-in
- Helped tackle cultural change challenges

- Final sign off by HMEP Programme Board – 21/11
- Launch at the LoTag Roads Conference in London – 9/12
- CIHT Webinar - January





Highways Maintenance Efficiency Programme

**THANK YOU
ANY QUESTIONS?**

All HMEP products are freely available at

www.dft.gov.uk/hmep